REMARKS

The Office Action contains a single prior art rejection of each of Claims 1-6. Each of original Claims 1-6 were rejected under 35 U.S.C. 102(b) over Ogawa et al (U.S. Pat. No. 6,028,14). According to the Examiner, Ogawa et al discloses a process for forming a block copolymer having an isobutylene-based polymer block and a vinyl-aromatic hydrocarbon-based polymer block. The process comprises polymerization of a functional group containing a monomer in the presence of a Lewis acid catalyst, wherein the block copolymer can contain chlorine atoms. The Lewis acid catalyst can be aluminum dichloride or trichloride, for example. Other additives can be added to the composition including calcium carbonate and other reinforcing agents, magnesium stearate or other stabilizers, alkali metal salt compounds, and gel-prevention compounds such as hydrotalcite-based compounds. As such, the Examiner concluded that original Claims 1-6 were anticipated by Ogawa et al.

Claim 1 has now been amended. Amended Claim 1 describes the "double salt" in limitation (B) as having an average particle size of 10μm or less. Support for this amendment is found in original Claim 4, and on page 15, lines 14-19 of the specification.

In contrast to the invention of amended Claim 1, the Ogawa et al. reference does not disclose use of the "double salt containing magnesium and aluminum as metal atoms, wherein the double salt has an average particle size of 10 μm or less" as an additive for the polymer composition in Claim 1. Accordingly, Ogawa et al. cannot anticipate any of amended Claims 1-6.

With regard to the specification description of the Claim 1 invention, in the Examples of the present application the materials "DHT-4A" and ÁHT-4A" (both manufactured by Kyowa Chemical Industry Col, Ltd.) were actually used for the component (B). To clearly show that these materials fall within the "double salt containing magnesium and aluminum as metal atoms, wherein the double salt has an average particle size of 10 μm or less", additional information about the "DHT-4A" and "ZHT-4A" (materials) are attached in the form of three documents: DHT-4A brochure, ZHT-4A brochure and letter from Kyowa Chemical Industry Co. (1, 2 and 3).

In view of amendment of Claim 1, it will be seen not only that the Claim 1 invention is novel but also, applicants submit, that it would have been unobvious to one of ordinary skill. The claimed invention comprises a polymer composition including a polymer produced by cationic polymerization in which the composition does not liberate a chlorine component by heating. As a result, the Claim 1 composition exhibits the unexpected effect that the production of free chlorine is inhibited. An odorless, safe polymer composition is obtained. This composition prevents corrosion of evaporators, dryers and molding apparatus during processing. (see page 27, lines 6-12 of the specification)

Conventional methods have a problem. A double salt having a large particle size has a small surface area to be in contact with chlorine generated in a heater, and thus cannot trap chlorine effectively. As a result, free chlorine increases and, therefore, the inside of the heater is corroded.

These unexpected effects of the Claim 1 composition were recognized by the fact that because free hydrogen chloride gas was suppressed, no odor was noticed. As a result, no

metal corrosion was observed with the polymer compositions in Examples 1 to 5 of the present application. In contrast, in Comparative Examples 1 to 3, where the double salt was not added (or another additive was added instead of the double salt), free hydrogen chloride gas was generated and at least one of either an odor or metal corrosion would not be suppressed in all cases. (page 26, Table 1 of the specification)

In summary, Ogawa et al. fail to teach or suggest use of the "double salt containing magnesium and aluminum as metal atoms, wherein the double salt has an average particle size of 10 μm or less" as an additive for a polymer composition. Unexpected effects exhibited by the use of such double salt are not seen by Ogawa et al. The polymer composition of the Claim 1 invention solves the prior art problems by using the specific double salt claimed.

As such Applicants submit that the invention of Claim 1 is neither anticipated nor would it have been obvious in view of Ogawa et al. Accordingly, Claims 1-6 should be allowable.

Respectfully submitted,

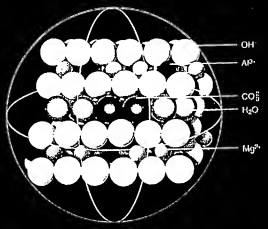
/Richard G. Lione/
Richard G. Lione
Reg. No. 19,795
Attorney for Applicant(s)

BRINKS HOFER GILSON & LIONE
P.O. Box 10395
Chicago, Illinois 60610
(312) 321-4200

Attachments:

1. DHT-4A Hydrogen Scavenger Brochure
2. ZHT-4A
3. Letter from Kyowa Chemical Industry Co., Ltd.

HALOGEN SCAVENGER



DHT-4A

Kyowa Chemical Industry Co., Ltd.
Kisuma Chemicals B. V.

KYOWA CHEMICAL INDUSTRY CO., LTD

KISUMA CHEMICALS

DHT-4A

[Hydrotalcite-like Compound]

Hydrotalcite [$Mg_6Al_2(OH)_{16}CO_3 \cdot 4H_2O$] occurs naturally in small deposits in the Urals of the Russian Federation and also in Snarum, Norway. In 1966 **Kyowa Chemical Industry Co., Ltd.** succeeded in the world's first industrial synthesis of hydrotalcite. Initially our synthetic hydrotalcite found an application in the pharmaceutical industry as an antacid. This product has been marketed worldwide via several prominent pharmaceutical companies.

At a later stage hydrotalcite-like compounds were developed, specifically aiming at industrial polymer processing, in which halogen immobilization is required in this type of application full use can also be made of the unmatched acid neutralization features of hydrotalcites.

DHT-4A is a synthetic Hydrotalcite-like compound and has recently been developed for use as a stabilizer (halogen scavenger) in plastic processes such as the production of polyolefins.

DHT-4A is needed to produce polyolefins which have residual catalyst components.

DHT-4A is the most suitable halogen scavenger for transparent films of polyolefins because of its low level of water carry-over as well as its refractive index which is close to that of polyolefins.

DHT-4A is indispensable in producing adhesive graft polymers in which calcium stearate can not be used due to bleed-out.

DHT-4A provides long term weatherability when used with HALS.

Advantages of DHT-4A

DHT-4A reacts with and deactivates the residual quantities of acidic substances associated with Ziegler-Natta, Friedel Crafts, Metallocene or other acid catalysts used to produce polymers or elastomers. As a result DHT-4A can markedly reduce or eliminate corrosivity and improve the polymers heat resistance and weathering properties. DHT-4A is particularly useful in polypropylenes made with high-yield catalysts that have no need for a de-ashing process. However, the PP produced in this process contains a considerable amount of halogen residual catalyst components, for example approximately 10 to 300 ppm of Cl^-. Such concentrations may cause problems of corrosion in molding equipment or degradation of the polymers themselves. Ideally halogens of this nature should be rendered inert. Through a unique adsorptive characteristic DHT-4A is able to do just this.

The conventional agent used in this application is calcium stearate, but DHT-4A is superior for the following reasons:

(1) Quantities of additives are minimized.
DHT-4A has about 5 times the capacity of calcium stearate to protect against corrosivity. Any loss of the polymers physical properties resulting from additives is thereby reduced.

(2) Polymer yellowing is avoided.
When DHT-4A contacts phenolic type stabilizers such as B.H.T., that are widely used as antioxidants, DHT-4A does not cause polymer yellowing.

(3) No stearic acid vapor problem.
By using DHT-4A, troublesome stearic acid vapors can be eliminated.

(4) Reduction of water carry-over.
The amount of water carry-over while using DHT-4A is noticably less than in the case of calcium stearate.

Characteristics of DHT-4A

A unique mechanism of acid-adsorption

The superiority of DHT-4A is mainly due to its particular mechanism of adsorbing acids. DHT-4A has a substantial anion-exchange property. For example, in the case of HCl, CO_3^{2-} of DHT-4A is easily ion-exchanged by Cl^-, and accordingly, the chloride ion is adsorbed and fixed in a stable crystal structure.

$$Mg_{4.5}Al_2(OH)_{13}CO_3 \cdot 3.5H_2O + 2HCl \rightarrow Mg_{4.5}Al_2(OH)_{13}Cl_2 \cdot mH_2O + H_2O + CO_2$$

The resulting compound (Chloride type DHT) is insoluble in both water and oil. In addition, a temperature of approximately 450°C is required for Cl^- to be released from the structure. Though calcium stearate neutralizes acids such as HCl by forming $CaCl_2$ and stearic acid, the resulting $CaCl_2$ is hygroscopic and dissolves in water.

$$Ca(C_{17}H_{35}COO)_2 + 2HCl \rightarrow CaCl_2 + 2C_{17}H_{35}COOH$$

The stearic acid produced has the disadvantage of causing corrosion of molding devices and bleeding out on the surface of the molded product.

Surface-coated Fine Particle

DHT-4A has not only an ion-exchange property but also has excellent physical properties as a powder. DHT-4A consists of very fine particles synthesized by Kyowa's proprietary technique. These particles are treated with a surface active agent which enable them to have good affinity with polymers. Therefore high dispersibility is achieved.

The mean particle size is approximately 0.4μm (micrometer), so DHT-4A may be used even in ultra-thin films or fiber resins without altering the texture or appearance of the product.

Safety Information

The fact that Kyowa's hydrotalcite has been used as an antacid world-wide in the pharmaceutical industry is indicative of DHT-4A's health and safety status.

Since DHT-4A is insoluble in both water and oil, aqueous or oily foods may be packaged in films containing DHT-4A without the concern that DHT-4A will migrate into the food. Only in the case of acidic food is there a possibility of migration. In this case, very small quantities of magnesium and aluminum ions which are "GRAS"*, may be observed.

DHT-4A is registered as a positive material in polyolefin used for food packaging in many countries.

**"GRAS": Generally Recognized As Safe substance for food additive by FDA in the U.S.A.*

Registration

CAS No.	11097-59-9
Food contact materials (EU)	PM/REF No.34690
FDA	Equivalent product to GRAS
* Food contacting package (Japan)	Registered

* Compliance with The Self-Restrictive Standards for Food-Contacting Package-Container and Utensil Made of Polyolefins and Certain Polymers (Japan)

Recommended Ratio of Additive to Mix

The following represents a typical quantity of DHT-4A required in the production of PP. In the case where high yield catalysts are employed and the usual de-ashing process is eliminated, from 0.001 to 0.3 parts by weight of DHT-4A are required together with other additives to 100 parts by weight of dry PP powder. The mixture is then kneaded, and pelletized by an extruder.

The dosage of DHT-4A is about 10 to 20 times the residual Cl in PP.

Standard Export Package

DHT-4A is packaged in a polyethylene bag or a 4-ply polyethylene/paper bag net wt. 20kg. The first inner ply is 0.10mm polyethylene and is sealed by heat. The remaining 3 plies are kraft paper sealed with cotton string stitching.

Properties of DHT-4A

Chemical Formula : $Mg_{1-x}Al_x(OH)_2(CO_3)_{x/2} \cdot mH_2O (0<x\leq 0.5)$

Chemical Description : Magnesium Aluminum Hydroxide Carbonate Hydrate

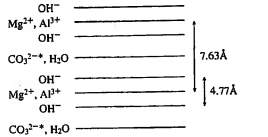
Product Appearance : A white, odorless, fine powder

	Typical Analysis
Magnesium as MgO	34%
Aluminum as Al_2O_3	19%
Molar Ratio of MgO/Al_2O_3	4.5
Loss on Drying *(at 105°C for 1 hour)*	0.34%
Heavy Metals.	10 ppm max.
Specific Surface Area *(BET method)*	11m^2/g
pH of Suspension *(1g/50ml $C_2H_5OH+H_2O$) (1:1)*	8.55
Particle Size Distribution	under 1 μm: 85.0min. (vol %) over 5 μm: 0.0 (vol %) average (μm) : 0.30-0.60
Packed Volume *(standard packing)*	approx. 0.06m^3/20kg bag

TECHNICAL INFORMATION OF DHT-4A

1) Crystalographic Properties

Formula : $Mg_{4.5}Al_2(OH)_{13}CO_3 \cdot 3.5H_2O$
Space Group : $R\bar{3}M$
a_o =3.048Å, c_o=22.90Å
Hardness (Mohs') : 2.0-2.5
Density : 2.1
Refractive Index : 1.49-1.51 (Birefringence)
Crystal Structure : Layer Sequences are as follows:



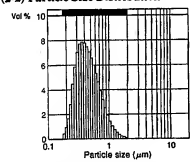
CO_3^{2-} can be ion-exchanged by another anion, such as Cl^-, F^-, NO_3^-, SO_3^{2-}.

2) Instrumental Analysis

(2-1) X-ray Powder Diffraction

d(Å)	I/I₀	hkℓ
11.8	1	002
7.5750	100	003
3.784	37	006
2.616	2	101
2.569	12	102
2.523	3	009
2.274	8	105
1.928	8	108
1.884	1	00, 12
1.720	2	10, 10
1.625	1	10, 11
1.522	6	110
1.492	6	113
1.455	1	10, 13
1.411	2	116
1.381	1	10, 14
1.309	1	202
1.264	1	205
1.249	1	10, 16

(2-2) Particle Size Distribution



The above histogram is defined by a laser scattering particle size distribution analyzer. (9320-×100 made by Nikkiso)

(2-3) Thermal Analysis by DTA and TGA

The interlayer water (approximately 12%) starts to dehydrate at approx. 180°C up to approx. 300°C. The crystal structure remains unchanged up to about 350°C. The crystal structure decomposes at approx. 350°C when the H_2O and CO_2 have evoluted from the structure, and a MgO-Al_2O_3 solid solution having the formula of $Mg_{1-3X/2}Al_XO$ is formed. This solid solution is stable up to 800°C. On further heating MgO and $MgAl_2O_4$ are formed at approx. 900°C. The original crystal structure of the solid calcined at less than 800°C can be restored by hydration.

Fig. 1 — DHT-4A [$Mg_{4.5}Al_2(OH)_{13}CO_3 \cdot 3.5H_2O$]

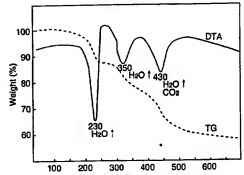
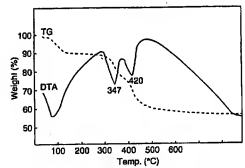
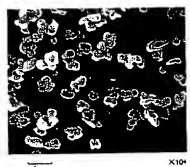


Fig. 2 — Chloride Type of DHT
[$Mg_{4.5}Al_2(OH)_{13}Cl_2 \cdot mH_2O$]



(2-4) Electron Micrograph



Kyowa Chemical Industry Co., Ltd.

Research & Development Department:
4285, Hayashidacho, Sakaide, Kagawa 762-0012, Japan
Phone +81(0)877-47-2500 Fax +81(0)877-47-4750 e-mail 〈rd@kyowa-chem.co.jp〉

Kisuma Chemicals B. V.

Billitonweg 7, 9641 KZ Veendam, the Netherlands
Phone +31(0)598-666-766 Fax +31(0)598-690-792 e-mail 〈marketing@kisuma.com〉

KYOWA CHEMICAL INDUSTRY CO., LTD

KISUMA CHEMICALS

2002. 5. 2000

Kyowa Chemical Industry Co., Ltd.

DHT-4A

〔ハイドロタルサイト類化合物〕

ハイドロタルサイト〔$Mg_6Al_2(OH)_{16}CO_3 \cdot 4H_2O$〕は、ソ連のウラル地方やノルウェーのスナルムで僅かに産出される天然鉱物です。1966年、協和化学工業株式会社は世界で初めて、これの工業的な合成に成功しました。弊社の合成ハイドロタルサイトは、先ず医薬用の制酸剤として開発され、これまで世界で著名な製薬メーカーの手によってその販売が進められており、現在広く世界各国へ供給されています。DHT-4A〔$Mg_4 \cdot 5Al_2(OH)_{13}CO_3 \cdot 3.5H_2O$〕は、ハイドロタルサイト類化合物であり、ポリオレフィン等のプラスチックス安定剤（ハロゲンスキャベンジャー）として開発されたものであります。

DHT-4Aの作用

DHT-4Aは、各種ポリマー製造の際に用いられるチーグラ・ナッタ触媒、フリーデル・クラフツ触媒、或いは酸触媒等に起因するポリマー中の残存酸性物質に作用して、これを不活性化します。その結果、DHT-4Aはポリマーの腐蝕性を顕著に抑制するとともに、耐熱性や耐候性を向上させる働きがあります。特に最近の脱灰工程の省略を可能にした高活性触媒法によるポリプロに適用した場合、DHT-4Aは優れた性能を発揮します。脱灰工程を省略し、或いは簡略化するポリプロの製法は近年可能になってきたもので、その特徴とするところはチーグラー・ナッタ触媒の担体として塩化マグネシウムを用いる点にあります。しかしこの製法によるポリプロは、例えば塩素イオンとして約10ppm～300ppmというかなりの量のハロゲンを触媒成分の残渣として含有しており、この残存成分は成形機に於ける金型等の金属部分の腐蝕やポリマー自体の劣化という問題を起こします。従って、この種のハロゲンはポリマー中で無害化される必要があります。DHT-4Aは、そのユニークな吸着特性によりこれが可能です。

従来、DHT-4Aと同目的の為にステアリン酸カルシウムが中和剤として用いられておりますが、ステアリン酸カルシウムに比較して、DHT-4Aは、次の点ですぐれています。

(1) 添加剤の量が少なくてすむこと。
DHT-4Aは、腐蝕防止効果の上で、ステアリン酸カルシウムの約5倍の活性を有しています。従って配合量が、それだけ少くてすむので、添加剤の大量配合がもたらすポリマーの物性低下がありません。

(2) ポリマーを黄変させない。
DHT-4Aは、B. H. T. のようなフェノール系安定剤と接触しても、ポリマーを黄変させるという問題を起こしません。

(3) ステアリン酸の揮発が無い。
ステアリン酸の揮発によって引き起こされる問題は生じない。

(4) Water carry-overが少ない。
ステアリン酸カルシウムを使用する場合よりも、Water carry-overが、僅少ですみます。

DHT-4Aの特徴

(1) ユニークな酸吸着のメカニズム

DHT-4Aのすぐれたユニークな点は、酸を吸着するその特殊なメカニズムにあります。DHT-4Aは本質的に陰イオン交換性を持っています。例えば塩酸の場合、DHT-4Aの化学構造中にあるCO_3^{2-}はCl^-によって容易に置換され、そして塩素イオンは結晶構造の中に組み込まれます。反応式で示せば、

$$Mg_4 \cdot 5Al_2(OH)_{13}CO_3 \cdot 3.5H_2O + 2HCl \longrightarrow Mg_4 \cdot 5Al_2(OH)_{13}Cl_2 \cdot mH_2O + H_2O + CO_2$$

となります。このようにして新たに生成する塩素イオン型ハイドロタルサイト類化合物は水や油に溶けません。又、約450℃の温度になるまで組み込まれたCl^-は結晶構造から脱離しません。

協和化学工業株式会社
研究開発部　〒762-0012　香川県坂出市林田町4285
tel.(0877)47-2500　fax.(0877)47-4750
東京営業所　〒103-0023　東京都中央区日本橋本町3-9-4 日幸小津ビル7階
tel.(03)3667-8037　fax.(03)3667-1938

一方ステアリン酸カルシウムはHClのような酸を中和して、$CaCl_2$及びステアリン酸を生成しますが、こうして出来た$CaCl_2$は吸湿性があり、水に溶けます。反応式を示せば、

$$Ca(C_{17}H_{35}COO)_2 + 2HCl \longrightarrow CaCl_2 + 2C_{17}H_{35}COOH$$

となります。$CaCl_2$と共に生成するステアリン酸は又、成形機に於ける腐蝕の問題や、成形物表面での“ブリード・アウト”といった問題を引き起こすもととなります。

(2) 表面コーティングされた超微粒子

上記のイオン交換性に加えてDHT-4Aは、粉体として優れた物理特性を示します。DHT-4Aは、協和独自の技術によって合成された超微粒子から成っています。そしてその微粒子は表面処理剤によってコーティングされているため、ポリマーとの相溶性が極めて良好で、結果として高分散性を有しています。粒子の平均粒径は約0.4μm（マイクロメーター）であります。従ってDHT-4Aは、極薄フィルムグレイドやファイバーグレイドのポリマーに用いても、何ら外観を損なうことなく使用できます。

安全性について

これまで、協和のハイドロタルサイトが世界各国の製薬メーカーによって制酸剤として使用されてきたという事実はDHT-4Aの安全無害性を示します。DHT-4Aは無害で無毒な化合物であり、その貯蔵、輸送、使用上も、何ら危険性はありません。

DHT-4Aは水や油に溶けない性質なので水や油性食品用容器となるポリマーに使用される場合にも、食品中に溶け出すという恐れはありません。但し酸には溶けるので、食品が酸性である場合には僅かに溶出の可能性はありますが、DHT-4Aはポリマー中にその殆んどが堰没されていることから、酸性の食品に溶出する可能性は極めて少ないといえます。

登録状況

CAS No.	11097-59-9
ポリ衛協、登録番号	(B)NL-3694
FDA	GRAS相当品
Food contact materials (EU)	PM/REF No.34690

DHT-4Aの使用例

一例としてポリプロ製造プロセスでの使用例を示します。触媒残渣がCl換算で約10～300ppm含まれているPP乾燥粉末100重量部に対してDHT-4A約0.01～0.3重量部をCl量に対し約10倍量、他の配合剤と共に添加混合し、押出成形機にて熔融混練しペレット化する。

貯蔵及び取り扱いについて

DHT-4Aは、水濡れや湿気の無い場所で貯蔵して下さい。開封しなければ、1年間貯蔵されても品質は変りません。

包装明細

入目20kg net、荷姿は紙袋又はポリエチレン袋。紙袋の場合、外装は3層クラフト紙、内装はポリ1層の計4層。内装ポリ袋は、0.1mm厚のポリエチレン袋のヒートシール閉じ、外装クラフト紙袋はミシン閉じとなっております。ポリエチレン袋は、0.2mm厚のポリエチレンを使用しています。

DHT-4Aの一般的性質

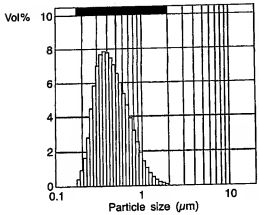
化 学 式……$Mg_{4.5}Al_2(OH)_{13}CO_3 \cdot 3.5H_2O$

化学組成……塩基性マグネシウム・アルミニウム・ハイドロオキシ・カーボネート・ハイドレート

外　　観……白色、無臭の微粉末

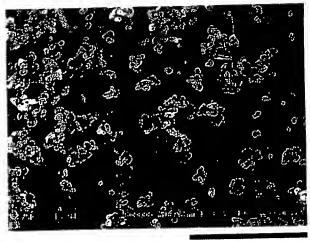
	分 析 一 例
MgO	34%
Al_2O_3	19%
モル比（MgO/Al_2O_3）	4.5
水分（105°C、3時間）	0.34%
重 金 属	10ppm以下
比表面積（BET）	11m^2/g
吸 油 量	60mℓ／100g
pH (1gDHT-4A/50mlC_2H_5OH+H_2O)(1:1)	8.55
粒度分布　1μm以下 5μm以上 平均粒径	85.0 vol % min. 0.0 vol % 0.30-0.60μm

(2-3) レーザー回折／散乱法による粒度分布



（日機装 9320-×100）

(2-4) 電子顕微鏡写真



5μm

協和化学工業株式会社

研究開発部　〒762-0012　香川県坂出市林田町4285
tel.(0877)47-2500　fax.(0877)47-4750

東京営業所　〒103-0023　東京都中央区日本橋本町3-9-4 日幸小津ビル7階
tel.(03)3667-8037　fax.(03)3667-1938

2003.1.2000

TECHNICAL DATA

HALOGEN SCAVENGER
ZHT-4A

Kyowa Chemical Industry Co., Ltd.

Research Center : 4285 Hayashida-cho, Sakaide, Kagawa 762, Japan
Phone (0877) 47-2500, Fax (0877) 47-4208

Osaka Office : 3-2-6 Fushimi-cho, Chuo-ku, Osaka 541, Japan
Phone (06) 203-0561, Fax (06) 203-0578

Tokyo Office : 3-9-4 Hon-cho, Nihonbashi, Chuo-ku, Tokyo 103, Japan
Phone (03) 3667-8037, Fax (03) 3667-1938

ZHT–4A

ZHT-4A has been developed as a halogen scavenger which reacts with and deactivates the residual quantities of catalysts and acidic substances used in producing polyolefins (PP, LLDPE, HDPE).

ZHT-4A's reaction is due to its unique mechanism of ion-exchange, and is better than calcium stearate in the prevention of corrosion of molding equipment and in the degradation of the polymers themselves by heat or light.

The production technique of ZHT-4A is based on the properties of DHT-4A which is a Hydrotalcite-like compound.

When ZHT-4A is combined with antioxidants or nucleating agents, yellowing or pinking does not appear.

Advantages of ZHT-4A compared with calcium stearate.

1. ZHT-4A has 5 times the capacity of calcium stearate to protect against corrosion.
2. Polymer yellowing is avoided.
3. It has high heat stability.
4. There is no bleed out.
5. There is reduction in water carry-over.
6. There is reduction in bleed out around the die.

(Translation)

KYOWA CHEMICAL INDUSTRY CO., LTD.

9-4, 3-CHOME NIHONBASHI-HONCHO, CHUO-KU, TOKYO 103-0023, JAPAN

TELEPHONE : 0081-3-3667-8037 FACSIMILE : 0081-3-3667-1938

2007.11.19

Kaneka Corporation
Functional Resin Development Gr Mr. Nakajima

Dear Mr. Nakajima:

We are pleased to hear that things are going well for your company.

We thank you very much for your loyal patronage.

We are forwarding herewith, in an attachment, the catalog of our product "ZHT-4A" you have recently inquired over the phone. In comparison to "DHT-4A", the grade of "ZHT-4A" is such that

1. the particle size is greater by about 0.1 μm;
2. an animal-derived higher aliphatic acid is used as the surface treatment agent as used for DHT-4A; and
3. the constituent elements of DHT-4A have been partly substituted with Zn.

We took the liberty of adding a supplemental explanation as indicated above since the catalog is not very clear in this respect.

We appreciate your attention to our product.

Very truly yours,

Kyowa Chemical Industry Co., Ltd.
Chemical Product Division Tadasu Yamamoto
9-4, 3-Chome, Nihonbashi-Honcho, Chuo-Ku, Tokyo
103-0023
Tel 03-3667-8037
Fax 03-3667-1938
Email: tadasu@kyowa-chem.co.jp

KYOWA CHEMICAL INDUSTRY CO., LTD.

9-4, 3-CHOME NIHONBASHI-HONCHO, CHUO-KU, TOKYO 103-0023, JAPAN

TELEPHONE : 0081-3-3667-8037　FACSIMILE : 0081-3-3667-1938

2007.11.19

株式会社カネカ

機能性樹脂開発 Gr　中島　様

拝啓　貴社益々ご盛栄のこととお慶び申し上げます。

毎々格別のお引き立てを賜り厚く御礼申し上げます。

さて、先般お電話にてお問い合わせ頂きました弊社製品「ZHT-4A」のカタログを添付の通りお送り申し上げます。　「ZHT-4A」は、「DHT-4A」と比較して、

1．0.1μm 程度粒子が大きい

2．DHT-4A と同様の表面処理剤は動物性由来の高級脂肪酸を使用

3．DHT-4A の組成元素の内、一部を Zn に置換

しているグレードです。

別途カタログでは、分かりにくい為補足説明をさせて頂きました。

何卒宜しくお願い申し上げます。

敬具

協和化学工業㈱
化学品課　山本　匡
〒103-0023
東京都中央区日本橋本町 3-9-4
TEL03-3667-8037
FAX03-3667-1938
E-mail：tadasu@kyowa-chem.co.jp